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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,592	03/09/2001	Philip Edward Arthur Stuart	60,426-238 (00P7642US01)	6107

24500 7590 04/22/2004

SIEMENS CORPORATION
INTELLECTUAL PROPERTY LAW DEPARTMENT
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EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,592

Applicant(s)

STUART, PHILIP EDWARD
ARTHUR

Examiner

Brian T. Pendleton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 5, 12 and 16-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 1/28/04 have been fully considered but they are not persuasive. On page 7 of the Remarks in paper No. 5, Applicant argues that the resonator 5 relied upon in the Tomisawa et al reference is not the resonator claimed in independent claims 1 and 9. It is the Examiner's contention that the air intake collector 5 is inherently a resonator since it is a hollow chamber through which sound resonates. Although the specification does not explicitly label the collector 5 as a resonator, one of ordinary skill in the art would have known it can act as a resonator. Reference to Krueger et al is supplied to further support the Examiner's position.

Applicant's arguments with respect to the combination of Brackett and Tanaka et al have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Tanaka et al suggested the use of resonators to reduce low frequency noise. Column 3 lines 22-29 provided motivation by stating that a hollow portion 22 which is in the air intake duct will act as a resonator and reduce low frequency noise. Thus, one of ordinary skill in the art

would have realized its benefit and applied it to Brackett to further reduce noise. As to the positioning of the speaker, it is clearly shown that the speaker 3 faces the inlet of the air intake duct.

Applicant's arguments, see pages 8-9, paper No. 5, filed 1/28/04, with respect to claims 1, 2, 7, 9 and 10 have been fully considered and are persuasive. The 102(b) rejection of the claims using Everingham has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomisawa et al and Krueger et al. Tomisawa et al teach an air intake sound control apparatus comprising air inlet duct 3, engine 1, sound detector 46, speaker 45 mounted within the air inlet duct 3, resonator (hollow chamber) 5 positioned between the speaker and engine and controller 9 for receiving the signal from microphone 46 and generating a control signal phase shifted 180 from the air intake sound picked up by the sound detector 46 (see abstract, figure 7 and column 1 lines 48-56). Element 5 is described as an air intake collector, however one of skill in the art would recognize that inherently collector 5 is a resonator. Extra reference to Krueger et al is relied upon to illustrate that hollow chambers act as resonators. *Continental Can Co. USA v. Monsanto Co.*, 948

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F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991) states that extrinsic evidence may be used to show inherency. Krueger et al teach in prior art Figure 7 and column 2 lines 12-26 that a hollow body 16 is a Helmholtz resonator. The resonator is used to absorb sounds at particular frequencies. The air intake collector 5 naturally cancels some low frequency engine noise. Claims 1 and 9 are met. The resonator 5 attenuates low frequency noise from the engine based on its dimensions, meeting claims 2 and 7. The shape of the resonator 5 would attenuate peak noise in a particular frequency range, meeting claim 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 9, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brackett in view of Tanaka et al. Brackett discloses an active noise control system for an air intake engine comprising air inlet duct 12, speaker 28 and controller 30. The controller 30 is an active noise controller and accordingly the system included a microphone for measuring the noise in the system and said controller produces an out-of-phase signal to cancel the noise. Air filter 14 is positioned behind speaker 28 (per claim 3). Brackett does not teach a resonator positioned between the speaker and engine for reducing low frequency engine noise. Tanaka et al teach an intake sound control apparatus comprising air inlet duct 13, sound detector 4, speaker 3

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facing the inlet end, resonator 21 and controller 5. As suggested in column 1 lines 15-17, it was well known to use resonators, as a passive device, in intake pipes for reducing the noise of an internal combustion engine. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include a resonator in the invention of Brackett since it would have enhanced noise cancellation by supplementing the active noise cancellation already present. As suggested in column 4 lines 64-68 of Tanaka et al, there were many places to position the canceling speaker, so one of ordinary skill in the art would have realized the appropriate position for a vehicle without undue experimentation, said position being upstream of the resonator and engine, as claimed, meeting claims 1 and 9. As to claims 2 and 10, the resonator attenuates low frequency noise. Regarding claim 4, the modified Brackett invention would have a resonator between the engine and speaker. Since the air filter 14 is behind and next to the speaker 28, the resonator would have to be mounted next to the air filter. As to claims 6 and 13, the resonator 21 extends outwardly from the air duct housing in Tanaka et al, therefore it was obvious to make the resonator in Brackett extend from the air inlet duct 12.

Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomisawa et al in view of Guenther. Tomisawa et al teach an apparatus comprising air inlet duct, engine, sound detector, speaker mounted within the air inlet duct, resonator (hollow chamber) positioned between the speaker and engine and a controller for receiving the signal from the sound detector and generating a control signal phase shifted 180 from the air intake sound picked up by the sound detector. However, the

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reference does not state that the speaker is less than 400 millimeters in diameter.

However, such small speakers were well known in the art, as evidenced by Guenther.

Taught in column 5 lines 7-22, the speaker was less than 400 millimeters and suggested in the column 1, the speaker was low cost and advantageous for places where weight and size are factors. Vehicles with their limited space would have qualified as such a place. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the speaker of Guenther in the invention of Tomisawa et al.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brackett in view of Tanaka et al as applied to claim 3 above, and further in view of Tomisawa et al. The combination of Brackett and Tanaka et al teach an apparatus comprising an air inlet duct, sound detector, speaker mounted within the air inlet duct and facing inlet end, resonator, controller for generating an anti-noise signal through the speaker, and air filter positioned behind the speaker. The combination does not disclose that the filter is enclosed by the air inlet duct housing. However, that feature was well known in the art of noise cancellation in an engine, as evidenced by Tomisawa et al, which teaches an air filter 2 totally enclosed by the air inlet duct. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Tomisawa et al in the combination. As to claim 15, the resonator 21 of Tanaka et al is supported by the air inlet duct between the speaker and outlet end.

Allowable Subject Matter

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Claims 5, 12 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

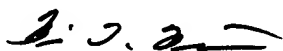
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone

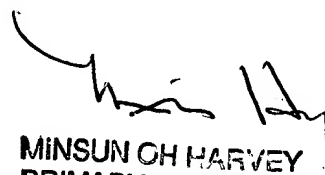
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number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Brian Tyrone Pendleton
April 19, 2004



MINSUN OH HARVEY
PRIMARY EXAMINER